



LIMIT SWITCH BOXES

Series SX, SH

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IT

**Istruzioni di sicurezza per l'installazione in area pericolosa**

Numeri di modello applicabili SX _ _ _ _ _ o SH _ _ _ _ _ (_ identifica diverse opzioni di micro, quantità micro, morsetti, colore, ingressi cavi).

Le istruzioni che seguono sono applicabili alle apparecchiature che posseggono la certificazione ATEX numero: **02ATEX 133733X**

1. Il limit switch box serie SX può essere installato in area pericolosa con presenza di gas, vapori e polveri infiammabili gruppo IIB e con classi di temperatura T4, T5, T6.

T6:	$-25^{\circ}\text{C} \leq T_{\text{amb.}} \leq +60^{\circ}\text{C}$
T5:	$-25^{\circ}\text{C} \leq T_{\text{amb.}} \leq +80^{\circ}\text{C}$
T4:	$-25^{\circ}\text{C} \leq T_{\text{amb.}} \leq +105^{\circ}\text{C}$

2. Il limit switch box serie SH può essere installato in area pericolosa con presenza di gas, vapori e polveri infiammabili gruppo IIB+ H2 e con classi di temperatura T4, T5, T6.

T6:	$-25^{\circ}\text{C} \leq T_{\text{amb.}} \leq +60^{\circ}\text{C}$
T5:	$-25^{\circ}\text{C} \leq T_{\text{amb.}} \leq +80^{\circ}\text{C}$
T4:	$-25^{\circ}\text{C} \leq T_{\text{amb.}} \leq +105^{\circ}\text{C}$

3. L'installazione dovrà essere eseguita in accordo alle normative applicabili e da personale opportunamente addestrato.
4. Questa apparecchiatura non può essere riparata dall'utilizzatore.
5. Se sussiste la possibilità che l'apparecchiatura possa venire a contatto con sostanze aggressive, è responsabilità dell'utilizzatore prendere le necessarie precauzioni per prevenire eventuali danni e assicurare che il grado di protezione non venga compromesso. Sostanze aggressive - es. Acidi, liquidi o gas, che possono attaccare i metalli.
6. Si dovranno osservare le seguenti precauzioni:
- i Potrebbero, in rarissime occasioni, verificarsi sorgenti potenziali di innesco dovute a scintille causate da urti o sfregamenti. Questo deve essere tenuto in considerazione quando l'apparecchio è installato in area che richiede apparecchiature di gruppo II, categoria 2G.
 - ii A causa delle cariche elettriche elettrostatiche delle parti plastiche, il limit switch box, deve essere pulito solo usando un panno umido.

GB

**Safety instruction to hazardous area installation**

Model numbers covered SX _ _ _ _ _ or SH _ _ _ _ _ (_ indicates options in switches, switches quantity, terminal strip, colour, cable entries).

The following instructions Apply to equipment covered by ATEX certificate number: **02ATEX 133733X**

1. SX limit switch boxes may be used in an hazardous area with flammable gases, vapours and powder, group IIB with the following temperature classes:

T6:	$-25^{\circ}\text{C} \leq T_{\text{amb.}} \leq +60^{\circ}\text{C}$
T5:	$-25^{\circ}\text{C} \leq T_{\text{amb.}} \leq +80^{\circ}\text{C}$
T4:	$-25^{\circ}\text{C} \leq T_{\text{amb.}} \leq +105^{\circ}\text{C}$

2. SH limit switch boxes may be used in an hazardous area with flammable gases, vapours and powder, group IIB+H2 with the following temperature classes:

T6:	$-25^{\circ}\text{C} \leq T_{\text{amb.}} \leq +60^{\circ}\text{C}$
T5:	$-25^{\circ}\text{C} \leq T_{\text{amb.}} \leq +80^{\circ}\text{C}$
T4:	$-25^{\circ}\text{C} \leq T_{\text{amb.}} \leq +105^{\circ}\text{C}$

3. Suitably trained personnel shall carry out installation in accordance with applicable code of practice
4. The user should not repair this equipment.
5. If the equipment is likely to come into contact with aggressive substances, it is responsibility of the user to take suitable precautions that prevent it from being adversely affected, thus ensuring that the type of protection is not compromised.
- Aggressive substances – es. Acidic liquids or gases that may attack metal .
6. The following precautions must be observed:
- i The metallic alloy used for the enclosure, in the event of a rare accident, could cause ignition sources due to impact or friction (sparks may occur). This shall be considered when the box is installed in group II category 2G areas.
 - ii Due to electrostatic charge of plastic pieces, the limit switch box shell only be cleaned with a damp cloth.



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Manuale di installazione e uso IOM-SX.SH00-01
Installation & Operation Manual IOM-SX.SH00-01

IT	 	GB	 
Dichiarazione di conformità ai sensi della direttiva AteX 94/9/EC		Declaration of conformity as defined by the ATEX directive 94/9/EC	
Dichiariamo, sotto la nostra responsabilità, che i SOLDO "limit switch box SX series,  II 2 G/D EEx d IIB T6 to T4" e i SOLDO "limit switch box SH series,  II 2G/D EEx d IIB+H2 T6 to T4" sono conformi alle disposizioni delle direttive ATEX 94/9/EC "Equipment or Protective Systems intended for use in potentially explosive atmospheres" e con l'adempimento della legislazione nazionale. Inoltre dichiariamo che sono state applicate le norme: EN 50014 EN 50018 EC- Certificato di controllo Tipico 02ATEX 133733X Notifica della assicurazione qualità UI Demko Q135510		Herewith we declare that the SOLDO "limit switch box SX series,  II 2G/D EEx d IIB T6 to T4" and the SOLDO "limit switch box SH series,  II 2G/D EEx d IIB T6 to T4" are in conformity with the provision of the ATEX directive 94/9/EC "Equipment or Protective Systems intended for use in potentially explosive atmospheres" and with national implementing legislation and that appropriate harmonized standards have been applied: EN 50014 EN 50018 EC- Type examination certificate 02ATEX 133733X Production quality assurance notification: UI Demko Q135510	
FR	 	DE	 
Déclaration of conformity as defined by AteX directive 94/9/EC		Konformitätserklärung im Sinne der ATEX richtlinie 94/9/EC	
Par la présente nous déclarons que les SOLDO "limit switch box SX series,  II 2 G/D EEx d IIB T6 to T4" et les SOLDO "limit switch box SH series,  II 2G/D EEx d IIB+H2 T6 to T4" sont conformes aux dispositions des Directive ATEX 94/9/EC "Equipment or Protective Systems intended for use in potentially explosive atmospheres" et aux législations nationales les transposant. Les normes applicables sont: EN 50014 EN 50018 Attestation d'examen CE de type: 02ATEX 133733X Assurance qualité de production: UI Demko Q135510		Hiermit erklären wir, dass die SOLDO "limit switch box SX series,  II 2G/D EEx d IIB T6 to T4" und SOLDO "limit switch box SH series,  II 2G/D EEx d IIB T6 to T4" den ATEX 94/9/EC "Equipment or Protective Systems intended for use in potentially explosive atmospheres" sowie den einschlägigen nationalen Durchführungsbestimmungen entsprechen. Folgende normen wurden zugrundegelegt: EN 50014 EN 50018 EG- Baumusterprüfbescheinigung: 02ATEX 133733X Anerkennung Qualitätssicherung der Produktion: UI Demko Q135510	

Document: **CE001** Issued by: **SB** Rev. 1 Date: **29/01/03**



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Manuale di installazione e uso IOM-SX.SH00-02
Installation & Operation Manual IOM-SX.SH00-02

READ THIS INSTRUCTION FIRST

To avoid serious or fatal personal injury or major property damage, read and follow all safety instruction in this manual. If you require additional assistance, please contact the manufacturer.

SAVE THIS INSTRUCTION

PRIMA DI INSTALLARE IL BOX LEGGERE QUESTE ISTRUZIONI
Per evitare il ferimento, la morte o danni importanti a oggetti leggere e seguire tutte le istruzioni di sicurezza presenti in questo manuale. Se vi servono informazioni aggiuntive non esitate a contattate il produttore.

CONSERVATE QUESTE ISTRUZIONI

SAFETY ALERT SYMBOLS

DANGER Warns of hazard that WILL cause serious personal injury, death or major property damage.

WARNING Warns of hazard that MAY cause serious personal injury, death or major property damage.

CAUTION Warns of hazard that MAY cause personal injury or property damage.

DANGER

Follow SI001 (page 1) for safety instruction to hazardous area installation.

WARNING

HAZARDOUS VOLTAGE Due to the risk of electric shock disconnect all power before servicing equipment.

CAUTION

Do not exceed the limit switch performance limitation. Exceeding the limitation may cause damage to the limit switch. Limit switchbox for quarter-turn valve device (90° rotation). Maximum shaft angular velocity 250 rpm. Not comply with this note cause damage.

1e INSTALLATION

1.1 Attach proper mounting bracket (1) to the box housing (4) using four M 6x8 bolts (2).

1.2 Align shaft (5) to actuator shaft and engage it.

1.3 Attach bracket (1) to actuator using hardware provided (3).

2e SWITCH ADJUSTMENT

2.1 Loose the screws (8) and remove box cover (7).

2.2 Follows indication in "Cams setting – Regolazione delle Camme" (page 7)

2.3 Box with 4 switches, set the actuator in the two extra position you have to signal. Act according to indications in "Cams setting – Regolazione delle Camme" to set cams of the switch number 3 and 4.

2.4 Replace Switch box aluminium cover (7). WARNINGS: check seal (6) is properly fitted in slot. Turn manually cover's shaft (15) checking to align it to switch box shaft and engage it.

2.5 Tighten screws (8) to fix limit switch box cover (7).

3e 3D INDICATOR SETTING

3.1 Remove four screws (13) and remove 3D indicator's cover (12).

3.2 Remove screw (10) and lift up 3D indicator (9) from its splined retainer.

3.3 Set 3D indicator (9) on splined retainer according to valve position.

3.4 Fix 3D indicator screwing the (10) screw.

3.5 Replace cover of 3D indicator (12). WARNINGS: check seal (11) is properly fitted in slot.

3.6 Tighten screws (13) to fix 3D indicator cover (12).

4e ELECTRICAL WIRING

4.1 Remove cover according point 2.1.

4.2 Remove protection plugs from cable entries and substitute them with cable glands or plugs suitable for type of protection required.

4.3 Connect terminal strip (14) according to the wiring diagram in "Cams setting – Regolazione delle Camme"

4.4 Reassemble cover (7) according to points 2.4 and 2.5.

SIMBOLI DI SEGNALAZIONE PERICOLO

DANGER Segnalazione di pericolo che non rispettata causerà serie ferite, morte o danni importanti a oggetti.

WARNING Segnalazione di pericolo che non rispettata potrà causare serie ferite, morte o danni importanti a oggetti.

CAUTION Segnalazione di pericolo che non rispettata potrà causare ferite o danni a oggetti.

DANGER

Seguire le indicazioni del documento SI001 (Page 1) per l'installazione in area pericolosa.

WARNING

PERICOLO SCOSSE ELETTRICHE. Togliere l'alimentazione elettrica prima di collegare o manutene l'apparecchio.

CAUTION

Non superare le limitazioni di utilizzo degli switch. Il superamento delle limitazioni può causare il danneggiamento degli switch.

Limit switch box per uso su valvole a quarto di giro (90°). Massima velocità di rotazione dello stelo 250 rpm. Non rispettando questa indicazione si producono danni.

1i INSTALLAZIONE SULL'ATTUATORE

1.1 Fissare la staffa (1) al corpo del box (4) utilizzando le 4 viti a cava esagonale M 6x8 (2).

1.2 Ruotare manualmente lo stelo (5) in modo che il lembo fresato sia parallelo alla cava situata sul pignone dell'attuatore, quindi innestarlo alla stessa.

1.3 Fissare la staffa (1) all'attuatore con le viti fornite a corredo (3).

2i REGOLAZIONE DEI FINECORSI

2.1 Svitare le quattro viti (8) per rimuovere il coperchio del box (7).

2.2 Seguire le indicazioni della tabella "Cams setting – Regolazione delle Camme" (page 7).

2.3 Se box con 4 micro, portare l'attuatore nelle altre due posizione in cui si desiderano le segnalazioni. Regolare le due camme per i micro 3 e 4 agendo come da indicazioni della tabella "Cams setting – Regolazione delle Camme".

2.4 Rimontare il coperchio in alluminio (7) sul box (4) curando che la guarnizione (6) sia correttamente posta nella sua cava nel coperchio. Per effettuare questa operazione ruotare manualmente lo stelo (15) del coperchio in modo che il lembo fresato sia parallelo alla cava situata sul stelo del box, quindi innestarlo allo stesso.

2.5 Serrare le viti (8) per fissare il coperchio del box (7).

3i REGOLAZIONE INDICATORE 3D

3.1 Svitare le quattro viti (13) e sollevare il coperchio dell'indicatore 3D (12).

3.2 Svitare la vite (10) e tirando verso l'alto sfilare l'indicatore 3D (9) dal suo supporto millerighe.

3.3 Innestare l'indicatore 3D (9) sul millerighe curando che la sua posizione rispecchi la posizione della valvola.

3.4 Fissare l'indicatore avvitando la vite (10).

3.5 Rimontare il coperchio dell'indicatore 3D (12) curando che la guarnizione (11) sia correttamente alloggiata nella sua cava.

3.6 Avvitare le viti di fissaggio (13) del coperchio dell'indicatore 3D (12).

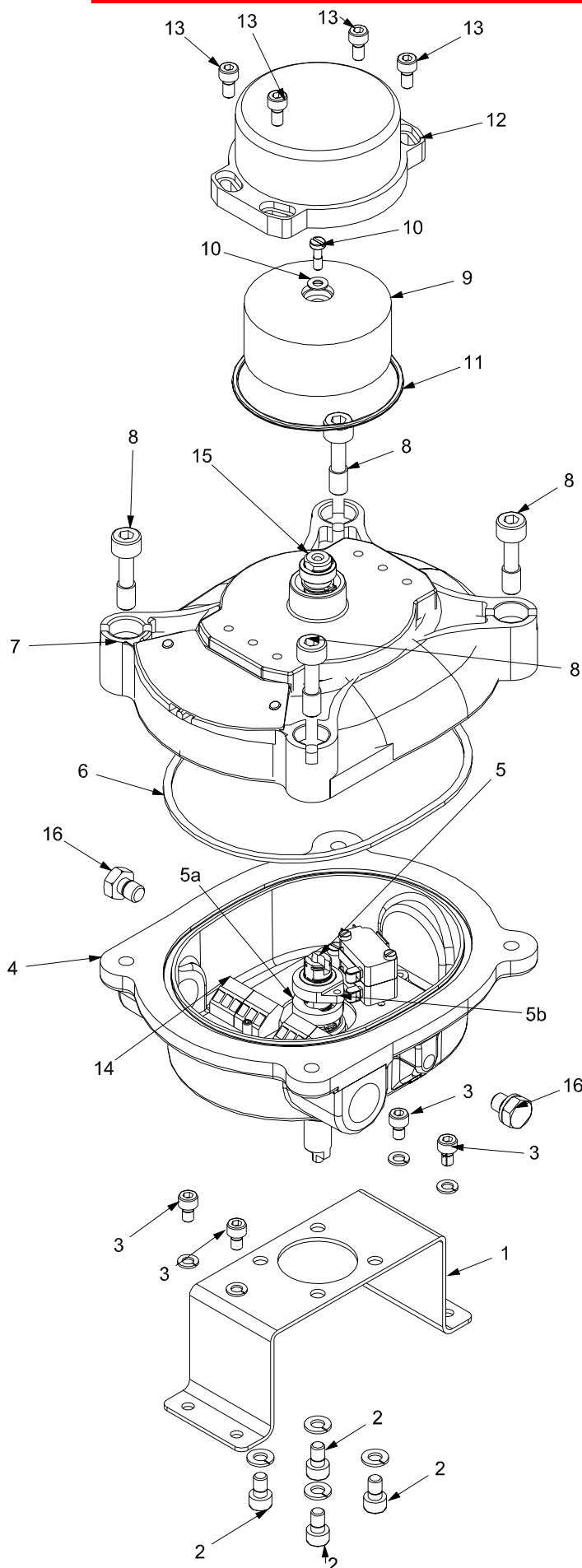
4i CABLAGGIO ELETTRICO

4.1 Rimuovere il coperchio (7) come indicato nei punti 2.1.

4.2 Rimuovere i tappi di protezione e sostituirli con pressacavo/i ed/o tappo/i filettati, che garantiscano il livello di protezione richiesto.

4.3 Collegare i morsetti (14) seguendo lo schema elettrico indicato in tabella "Cams setting – Regolazione delle Camme".

4.4 Rimontare il coperchio (7) come da indicazioni 2.4 e 2.5.



NOMENCLATURE

CODIFICA OPZIONI

SX
SH

01	2	0	0	-	1
cable entry					
1 n°2 ½" npt					
2 n°2 M20x1.5					
3 n°2 ½" npt +n°1 ¾" npt					
4 n°2 M20 x 1.5 +n°1 M25 x 1.5					
colour					
0 black					
1 blue RAL 5015					
terminal strip					
0 standard PCB + extra solenoid terminals					
2 blue PCB + extra solenoid terminals					
7 cage clamp blue + extra poles for solenoid valve					
8 cage clamp blue					
switch quantity					
1 to 4 according switch type					

switch type		rating				max qty installed
		Voltage	Min	Max resistive load	Max inductive load	
01	electromech SPDT silver plated contacts	250 Vac	50 mA	5A	5A (power factor 0.4, time costant 7 ms)	4 SX
		110Vac	50 mA	5A	5A	2 SH
		24 Vdc	50mA	3A	3A	temp. range -20°C +80°C
02	electromech SPDT gold plated contact hermetically sealed	250 Vac	5 mA	3A	1.8A (power factor 0.4, time costant 7 ms)	4 SX
		110Vac	5 mA	3A	2A	2 SH
		24 Vdc	1 mA	1A	12A	temp. range -20°C +80°C
03	electromech SPDT gold plated contacts	250 Vac	5 mA	3A	1.8A (power factor 0.4, time costant 7 ms)	4 SX
		110Vac	5 mA	3A	2A	2 SH
		24 Vdc	1 mA	1A	12A	temp. range -20°C +80°C
07	electromech SPDT gold plated contacts inert gas hermetically sealed	250 Vac	--	--		4 SX
		110Vac	5 mA	3A		2 SH
		28 Vdc	1 mA	5A inductive/ resistive load		temp. range -20°C +80°C
C4	proximity SPDT inert gas hermetically sealed	240 Vac	--	--	Only resistive load (cos Ø =1)	4 SX
		110Vac	--	1A		2 SH
		24 Vdc	--	1A	Max 25 W	temp. range -20°C +80°C
17	electromech SPDT gold plated contacts hermetically sealed (ip67)	250 Vac	5 mA	0.1A	50 mA (power factor 0.4, time costant 7 ms)	4SX
		110Vac	5 mA	0.1A	60 mA	0SH
		24 Vdc	1 mA	0.1 A	70 mA	temp. range -20°C +80°C
One cam operates two switches						
18	electromech SPDT silver plated contacts hermetically sealed (ip67)	250 Vac	50 mA	2 A	1 mA (power factor 0.4, time costant 7 ms)	4SX
		110Vac	50 mA	2 A	1.2 mA	0SH
		24 Vdc	50 mA	2 A	1.6 mA	temp. range -20°C +80°C
One cam operates two switches						
20	proximity NAMUR P+F NJ4 12GK N	Nom. voltage U ₀ = 8Vdc	sensibility 4 mm, current consumption : 1mA (face covered), 3mA (face not covered), self inductance 50 µH, self capacitance: 45 nF			2 SX 2 SH
		temp. range -20°C +80°C				
22	proximity PNP NO P+F NBB2 12GM50 E2	Oper. voltage: 10-30 Vdc	sensibility 2 mm, operating current : 200 mA, voltage drop: 3V, min. consumption : 17 mA, led indicator			2 SX 0 SH
		temp. range -20°C +70°C				
23	proximity PNP NO P+F NBN4 12GM50 E2	Oper. voltage: 10-30 Vdc	sensibility 4 mm, operating current : 200 mA, voltage drop: 3V, min. consumption : 17 mA, led indicator			2 SX 0 SH
		temp. range -20°C +70°C				
24	proximity NAMUR P+F NJ2 12GK N	Nom. voltage U ₀ = 8Vdc	sensibility 2 mm, current consumption : 1mA (face covered), 3mA (face not covered), self inductance 50 µH, self capac.: 45 nF			2 SX 2 SH
		temp. range -20°C +80°C				
28	proximity NAMUR P+F NJ2 11 N G	Nom. voltage U ₀ = 8Vdc	sensibility 2 mm, current consumption : 1mA (face covered), 3mA (face not covered), self inductance 50 µH, self capac.: 30 nF			2 SX 0 SH
		temp. range -20°C +80°C				
32	proximity NO P+F NBN4 12GM40 Z0	Oper. voltage: 10-60 Vdc	sensibility 4 mm, operating current : 4-100 mA, voltage drop: 6V, off-state current : 0.7 mA, led indicator			2 SX 0 SH
		temp. range -20°C +80°C				
36	proximity NAMUR P+F NJ5-11-N-G	Nom. voltage U ₀ = 8Vdc	sensibility 2 mm, current consumption : 1mA (face covered), 3mA (face not covered), self inductance 50 µH, self capac.: 30 nF			2 SX 0 SH
		temp. range -20°C +80°C				
39	proximity NAMUR P + F NJ2 12GK SN	Nom. voltage U ₀ = 8Vdc	sensibility 2 mm, current consumption : 1mA (face covered), 3mA (face not covered), self inductance 150µH, self capac.: 50nF			2 SX 0 SH
		temp. range -20°C +80°C				
60	proximity NAMUR P+F SJ 3.5 N	Nom. voltage U ₀ = 8Vdc	sensibility 4 mm, current consumption : 1mA (face covered), 3mA (face not covered), self inductance 100µH, self capac.: 30nF			2 SX 0 SH
		temp. range -20°C +80°C				
62	proximity NAMUR P+F SJ 3.5 SN	Nom. voltage U ₀ = 8Vdc	sensibility 4 mm, current consumption : 1mA (face covered), 3mA (face not covered), self inductance 100µH, self capac.: 30nF			2 SX 0 SH
		temp. range -20°C +80°C				
70	proximity NAMUR P+F NJ2 V3 N	Nom. voltage U ₀ = 8Vdc	sensibility 2 mm, current consumption : 1mA (face covered), 3mA (face not cover) self inductance 50 µH self capac.: 40 nF			4 SX 2 SH
		temp. range -20°C +80°C				
73	proximity PNP NO P+F NBB2 V3 E2	Oper. voltage: 10-30 VDC	PNP NO 3 wire amplified, sensibility 2 mm Operating current : max 100 mA Voltage drop: 3V min. consumption : 15 mA			4 SX 2 SH
		temp. range -20°C +70°C				
75	proximity IFM 5026 NC / NO programmable	Oper. voltage: 5-36 Vdc	sensibility 2 mm, operating current : 4-200 mA, voltage drop: 4.6V, leakage current : 0.8 mA.			4 SX 2 SH
		temp. range -20°C +80°C				

Model	Wiring diagram	Regolazione delle camme - Cams setting		
S*0120X-X S*0220X-X S*0320X-X S*0720X-X S*C420X-X	BOTTOM TOP EXTRA POLES GROUND	Far ruotare il pignone dell'attuatore in senso antiorario Turn actuator pinion counter clockwise ① ④		
S*2028(7)X-X S*2428(7)X-X S*2828(7)X-X S*3628(7)X-X S*3928(7)X-X	TOP BOTTOM EXTRA POLES (optional) GROUND	② ⑤		
S*7022X-X	BOTTOM TOP EXTRA POLES GROUND	③ ⑥		
S*7320X-X	BOTTOM TOP EXTRA POLES GROUND	③ ⑥		
S*7520X-X	BOTTOM TOP BOTTOM TOP EXTRA POLES GROUND	Ruotarla, nella direzione indicata, fino a che fino all'azionamento dell'interruttore, poi reinserirla nel mille righe. Turn, in the way shown, until switch is activated, then engage into splined retractor.		
S*2220X-X S*2320X-X	LEFT CW RIGHT CCW EXTRA POLES GROUND	②-③ ⑤ ⑥		
S*3220X-X	LEFT CW RIGHT CCW EXTRA POLES GROUND	Allentare (chiave del 19) il dado superiore Ruotare la camma per portarla di fronte al sensore Loosen (using a 19 wrench) top nut Rotate cam and fit in front of sensor Ruotare la camma indicata per portarla di fronte al sensore Rotate cam (shown in drawing) and fit in front of sensor Serrare (chiave del 19) il dado superiore Fasten (using a 19 wrench) top shaft nut		
S*6028(7)X-X S*6228(7)X-X	TOP BOTTOM EXTRA POLES (optional) GROUND	②-③ ⑤ ⑥		

Model	Wiring diagram	Switch position
S*0130X-X S*0230X-X S*0330X-X S*C430X-X		
S*0730X-X		
S*0140X-X S*0240X-X S*0340X-X S*C440X-X		
S*0740X-X		
S*1740X-X S*1840X-X		
S*C430X-X S*C440X-X	See previous wiring diagram S*013 = S*C43 S*014 = S*C44	

EC-TYPE EXAMINATION CERTIFICATE



Equipment or Protective System intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC

- [3] EC-Type Examination Certificate Number: DEMKO 02 ATEX 133733X
- [4] Equipment or Protective System: **Rotary Switch Box**
- [5] Manufacturer: **Soldo Srl.**
- [6] Address: **Via Monte Baldo 60, 25015 Desenzano d/G (BS), Italy**
- [7] This equipment or protective system and any acceptable variation there to is specified in the schedule to this certificate and the documents therein referred to.
- [8] UL International Demko A/S, notified body number 0539 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
- The examination and test results are recorded in confidential report No. 133733
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 50014: 1997 E incl. A1+A2 EN 50018: 2000 EN 50281-1-1: 1998
- [10] If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
- [11] This EC-Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by the certificate.
- [12] The marking of the equipment or protective system shall include the following:

⊕ II 2D/G Type SX: EEx d IIB T4/T5/T6
Type SH: EEx d IIB + H₂ T4/T5/T6

On behalf of UL International Demko A/S

Herlev, 2003-01-17


Karina Christiansen
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Schedule

EC-TYPE EXAMINATION CERTIFICATE No. DEMKO 02 ATEX 133733X

Description of Equipment or protective system

The "SH" and "SX" Rotary Switch Box series provides heavy-duty explosion proof aluminium enclosure for both visual and remote electrical indication of rotary valve/actuator position. The "SX" and the "SH" Rotary Switch Boxes can be provided with different types of switches.

For nomenclature for type SX _ _ _ _ _ and SH _ _ _ _ _ please refer to document entitled "SX-SH Schedule Drawing List and Nomenclature".

The relation between ambient temperature and the assigned temperature class is as follows:

Ambient temperature range	Temperature class
-25 °C to +60 °C	T6
-25 °C to +80 °C	T5
-25 °C to +105 °C	T4

Electrical data

The voltage supply is depending on rating of the switch type mounted. For options please refer to document entitled "SX-SH Schedule Drawing List and Nomenclature".

Installation instructions

All cable entry devices and blanking elements shall be certified in type of explosion protection flameproof enclosure "d", suitable for the conditions of use and correctly installed.

Unused apertures shall be closed with suitable blanking elements certified in type of explosion protection flameproof enclosure "d".

When considering other temperature classes than T6 please make sure that the Cable glands, blind plugs, wiring and the components mounted inside also is certified for that particular T-class.

For ambient temperatures below -10 °C and above +60 °C use field wiring suitable for both minimum and maximum ambient temperature.

Routine tests

Routine tests according to EN 50018 cl. 16 are not required, as the enclosures have been successfully tested at four times the reference pressure.

Report No.

Project Report No.: 133733-01 (Hazardous Location Testing)

UL International Demko A/S

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Certificate: 02 ATEX 133733X
Report: 133733-01

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Schedule

EC-TYPE EXAMINATION CERTIFICATE No. DEMKO 02 ATEX 133733X

Drawings:

The Schedule drawings are listed in the document entitled "SX-SH Schedule Drawing List and Nomenclature".

[17] Special conditions for safe use:

The maximum reference pressure measured in accordance with sub-clause 15.1.2 of EN 50018: 2001 for the enclosure is 7,6 bar. The enclosure has been type tested in accordance with sub-clause 15.1.3.1 by a static pressure of 31 bar for 1 minute, which is more than four times the reference pressure. Based on this the overpressure routine test on the enclosure is not necessary.

The apparatus shall be marked with the warnings:

"DO NOT OPEN WHEN ENERGIZED".

"DUE TO RISK OF STATIC HAZARD THE ENCLOSURE MUST ONLY BE CLEANED WITH A DAMP CLOTH"

[18] Essential Health and Safety Requirements

Concerning ESR this Schedule verifies compliance with the Ex standards only. The manufacturer's Declaration of Conformity declares compliance with other relevant Directives.

Additional information

The SX _ _ _ _ _ and SH _ _ _ _ _ has in addition passed the tests for Ingress Protection to IP 67 in accordance with IEC 60529.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in ANNEX III to Directive 94/9/EC of the European Parliament and the Council of 23 March 1994.

The certificate entitles the licensee to provide the product with the registered mark ®.

On behalf of UL International Demko A/S

Herlev, 2003-01-17


Karina Christiansen
Certification Manager

UL International Demko A/S

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